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SHOWY WILD FLOWERS THAT DO NOT NEED TO BE
PROTECTED

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A unique venture in the interest of wild flower preservation has been launched by the Connecticut Botanical Society, in conjunction with the Garden Club of New Haven. Prizes are offered for the best collections of fifty Connecticut flowers made during the year 1926 to illustrate the title which appears at the head of this paper. The contest is a purely local one, being open only to Connecticut children sixteen years of age or under, and, for the present year, only to those residing in New Haven or one of the towns immediately adjoining (*viz.*, West Haven, Woodbridge, Hamden, North Haven, and East Haven). The nature of the contest is here described with the thought that other organizations or groups may wish to sponsor a similar one.

Three prizes are offered, namely, a First Prize of \$20, a Second Prize of \$10, and a Third Prize of \$5; in addition to which there will be five Honorable Mention awards, each consisting of a year's membership in the Wild Flower Preservation Society, including subscription to "Wild Flower," the official magazine of that society.

The idea of offering prizes for collections of wild flowers is by no means a new one. My own first effort along botanical lines was in competition for a prize of \$5 offered by the Massachusetts Horticultural Society, in 1894, for the best collection of 125 native wild flowers. In such contests the chief motive is to encourage the study, among school children in particular, of native plants, and perhaps also to secure data regarding their local distribution. The present contest differs in that its manifest object is to stimulate interest in the subject of wild flower protection. Specifically, it is aimed at one particular phase of the situation, namely, the indiscriminate picking of showy wild flowers for decorative purposes. It is actuated by the realization of two facts: first, that some of our native wild flowers are in danger of

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extermination while many others are rapidly becoming scarcer as a result, very largely, of picking; second, that there are various common wild flowers, some of them ordinarily classed as weeds, which are quite as showy as their more sensitive relations and which can be utilized for decorative purposes with equal effect, but which can be picked freely, without the slightest danger of decreasing their abundance in the wild.

The plants comprising each collection are to be pressed, dried, mounted on herbarium sheets of standard size, and labeled, according to directions which will be provided.* The specimens are to show stem, leaves and flowers; but they are not to include the roots. Each collection is to be accompanied by a list of the species represented, giving both common and scientific names. The relative merits of the various collections are to be judged and the prizes awarded with reference, first of all, to the discrimination shown in selecting the kinds of plants to be included. There should be fifty species, no more and no less. Assuming, as the primary requisite, that only those flowers are included which can be picked without endangering their continued abundance in the wild, these should be chosen further with particular reference to their decorative value as cut (or picked) flowers; so much so that they may fairly be recommended as appropriate substitutes for various native wild flowers which need to be protected. A second point to be considered in judging the collections will be the neatness and care shown in the preparation, mounting and labeling of the individual specimens, and the accuracy shown in their determination. Credit will also be given for the inclusion of any original ideas which may be in harmony with the spirit of the contest.

All collections are to be sent to the Osborn Botanical Laboratory of Yale University during the week between Christmas and New Year. The awards will be announced at the annual meeting of the Connecticut Botanical Society, early in 1927, and the collections will be placed on exhibition at that time. At the close of the competition, all specimens will be returned to their owners.

So much for the details of the competition itself. The present article is being written with the intention, in part, of offering

* Detailed directions, together with a copy of this paper, can be secured for 15 cents (stamps) from the Corresponding Secretary of the Connecticut Botanical Society (Mr. A. E. Blewitt, 71 Eastwood Ave., Waterbury, Conn.).

certain suggestions to prospective contestants—suggestions which might apply equally well in any other similar contest; in part with a view to setting forth a few fundamental ideas regarding wild flower protection.

At the outset it is urged that all the contestants should enter fully into the spirit of the wild life conservation idea, of which wild flower protection is but one aspect. Much of the wild life that formerly predominated in Connecticut has vanished. To a large extent, of course, this has been brought about, as an unavoidable accompaniment of advancing civilization, through the destruction or modification of the habitat conditions which originally prevailed. The clearing of land for settlement and agriculture, the cutting of the forests for lumber and firewood, the devastation of vast tracts by forest fires, the draining of many swamps and the flooding of others, the plowing up of the ground for the production of crops, the introduction of grazing animals, the laying out of highways and railroads, the establishment and growth of towns and cities, the pollution of streams and lakes by sewage and other waste products and of the air by gas and smoke—all of these and various other more or less inevitable effects of human activity have contributed toward bringing about the disappearance of our native wild life. But they are by no means wholly responsible. In no small degree this disappearance must be attributed to the neglect of past generations in failing to take adequate conservation measures, a neglect which too often has found, and indeed still finds, deliberate expression in actions bordering closely on vandalism. Fifteen years ago, for example, in the northern Michigan cedar swamp where the accompanying photograph (Fig. 1) was taken, there were estimated to be fully fifteen thousand showy lady's slippers in bloom. Last summer there probably were not more than a thousand blossoms, most of these back in the more inaccessible parts of the swamp. The others had been carted away by the flower-pickers. This beautiful orchid once abounded in a swamp within three miles of the New Haven city hall, but the last recorded specimen from that locality was collected in 1875. As late as the early nineties the *Arethusa* grew in great profusion in the so-called Beaver Meadows, New Haven; in 1904 we were able to find just one single plant. Dozens of other showy plants might be cited which have practically (and some completely) vanished from the

vicinity of New Haven within the past fifty years, and not a few within the past decade.



FIG. 1.

Showy lady's slippers in a northern Michigan cedar swamp.

It is not a mere matter of sentiment, this movement to protect not only our wild flowers but all forms of wild life which are in danger of extermination. And yet, sentiment we must have, for by no other means can interest be created in the necessity of taking the active measures which are essential if the desired results are to be accomplished. The wild life of today represents a heritage from the past. It is something which we of the present generation are under obligation to preserve, if future generations are to inherit in full measure their share in the great out-of-doors. The wild flower protection movement does not aim to discourage the picking of wild flowers of every description. It aims rather to encourage an intelligent discrimination between the many plants whose flowers can be picked freely, without endangering their continued abundance in the wild, and the comparatively few whose very existence, like that of the showy lady's slipper and the *Arethusa*, may be terminated by picking.

Why it is that certain plants can be picked freely, and others not, may be more readily understood, perhaps, if we consider for a moment the life relations of plants in general; for plants, in common with animals, are living organisms. The life activities of plants, like those of animals, are directed toward two ends, namely the maintenance of the plant as an individual and the propagation of the plant as a species. The flower is the reproductive organ of the plant. It gives rise to the seeds, by which the plant is propagated. Picking the flowers, therefore, means that no seeds will be produced. In many cases, however, where the plants are abundant and where they blossom prolifically, producing numerous seeds which germinate readily, the flowers may be picked freely without apparent detriment. This, of course, is notoriously true of the plants we commonly class as weeds, which flourish in spite of all our efforts to get rid of them; and it is equally true of various other plants. With many plants, however, propagation is uncertain enough, even when the flowers are left to go to seed. In some forms, such as the trailing arbutus, for example, seasonal or other conditions may be such that seeds are produced only at infrequent intervals; and even then there may be but a few that are fertile. Again, the seeds of no plant will germinate unless they happen to fall in situations which are favorable to germination; and some plants are very exacting in this respect. In any event, the majority of the seeds produced in nature fall on "sterile ground." With annual plants, therefore, which are dependent entirely upon seeds to carry over the species from one year to the next, only those forms should be picked which, as indicated by their present abundance, have demonstrated an unquestioned ability to take care of themselves.

With perennial plants the situation is somewhat different. For the most part, wild herbaceous perennials, like the cultivated ones of our gardens, are provided with underground parts by which, under favorable circumstances, the individual plant may live on indefinitely, dying down to the ground at the end of one season and sprouting up afresh at the beginning of the next. But if the part of the plant above ground be broken off in mid-season, and with it the leaves, the chances are that the subterranean parts which remain will die of starvation; for the leaves are the factories, so to speak, where the plant's food is manufactured. The danger of extermination in this way is particularly great in

plants such as the trilliums and the jack-in-the-pulpit, where the leaves inevitably are taken in picking the flower. The danger is much less in plants which develop tall flowering-stems that are leafy nearly to the ground, provided the flowers are broken off with a short stem and few leaves, care being taken to leave sufficient foliage on the stump to maintain the continued activity of the underground parts. To this class belong various of the wild lilies, the increasing scarcity of which is due very largely to the insistence of people, intentional or otherwise, on picking long stems. The flowers alone of any plant, for that matter, may be plucked without endangering the life of the plant as an individual. Such procedure is practicable, however, only in the case of forms such as the dog-tooth violet, the pink lady's slipper, and the Dutchman's breeches which have long-stemmed flowers; and even with these it is important to remember that the removal of the flowers, while it may not interfere with the life of the plant as an individual, does prevent the development of seeds.

There are a goodly number of herbaceous perennials, however, in which the multiplication in the number of individual plants is not wholly dependent upon propagation by seeds; although here again it is the seeds which must be depended on if new individuals are to be developed at any great distance from the parent plant. These plants propagate themselves more or less copiously by means of rootstocks and other so-called "vegetative" methods. Such, for example, are the golden rods and the asters, which almost invariably show young sprouts with well-developed clumps of leaves around the base of the flowering-stem. In plants of this description the entire stem may be broken off, with reasonable assurance that the particular individual will continue not only to thrive but to multiply. Again, in some perennial plants, such as the violets, there are two kinds of flowers: large, showy ones which are mostly sterile, and small, inconspicuous ones which produce the seeds. But even in picking violets, more especially the leafy-stemmed forms, it must be remembered that the development of the inconspicuous fertile flowers cannot take place in the absence of leaves.

Coming now to the practical application of the facts just outlined to the principle of wild flower protection, it would seem a fairly conservative general rule that all wild plants should be picked sparingly, if at all, with the exception of those which

exhibit a marked ability to propagate themselves vegetatively or to spread and establish themselves by means of seeds. As the outstanding illustration of plants which spread prolifically, it may well be asked to what extent weeds can be utilized for decorative purposes. In answer to this question, I will only suggest that while, as a group, these economically undesirable plants, mostly immigrants from other sections of the world, may seem to present little in the way of attractiveness, nevertheless there are a remarkably large number of exceptions; such, for instance, as the common white daisy and the black-eyed Susan, the muskmallow and the wild carrot, the butter and eggs and the bouncing-bet. Between those flowers which can be picked in practically unlimited quantities, without fear of extermination, and flowers that should not be picked at all, there are, of course, all degrees of intergradation. In the list of plants which should not be picked at all belong all forms which, for any reason whatsoever, are notably rare; and in this connection it may well be pointed out that there are some plants which may reasonably be picked in one section of the country, or in one locality, but not in another; as the twin-flower in the northwoods where it reproduces vigorously, but not in southern New England, near the southward limit of its range, where it is on the verge of extinction. Mountain laurel in Connecticut is in no danger of actual extermination: in localities where it is abundant and which are not too accessible, no stigma can be attached to picking its blossoms, in moderation. But the situation is very different where the laurel grows along highways or in the vicinity of towns. Here it should not be picked at all. The blossoms of the flowering dogwood should never be taken: the mutilated trees are an eyesore and the flowers quickly wilt after being picked.

In the case of evergreen plants, the practise of using the foliage for decorative purposes during the Christmas season would seem to constitute an even greater menace to continued existence in the wild than the custom of picking during the blossoming season, especially where these plants are subject to commercial exploitation. Some enthusiasts would go so far as to completely taboo the use of wild evergreens in this way. They would even prohibit the use of the balsam fir for Christmas trees because, they assert, this practice constitutes a source of danger to our future lumber supplies. The absurdity of this latter contention is fully

appreciated by the forester and by all who are familiar with the balsam fir in its native home, to say nothing of its inconsequential value as a timber tree; but it continues to occupy space in the news columns every year. The mountain laurel has indeed been exterminated in many populous localities, chiefly through the use of its foliage for winter greens; and yet there is every reason to believe that, if properly safeguarded as to methods of picking, the future of the laurel is in little danger. The use of the holly for Christmas decorations, on the other hand, constitutes a very real menace: formerly a native Connecticut tree, not a single wild specimen is now known in this State, and it has been getting noticeably scarcer in recent years throughout its entire geographic range. So also, perhaps, the ground pine and running pine (species of *Lycopodium*) which, by reason of their popularity in making Christmas wreaths, seem destined to extinction over large parts of their ranges, unless measures are taken for their protection.

SPARE THE FLOWERS

Don't Pull Them Up by the Roots.

Don't Pick Many of Them.

Don't Take the Rare Kinds at All.

YOU CAN DO YOUR PART

**Save our native wild flowers from
destruction. Help to keep them
for next year and every year.**

Connecticut Botanical Society

FIG. 2.

Wild flower protection poster used by the Connecticut Botanical Society.

Wild flower protection, then, does not mean that we should forego the enjoyment of all except the very commonest and most prolific flowers. It does mean that, except for these commoner and more prolific forms, we should pick them sparingly and that

we should not pick the rare kinds at all; and the true spirit of wild flower protection will often lead one, in the effort to influence others by force of example, to live up to the rules of conservation somewhat more strictly than circumstances might otherwise demand. There would have been no harm, for example, if each of the four children pictured in the accompanying photograph had picked a single lady's slipper to carry back to camp. And yet, to have done so might very likely have paved the way for others to pick them by the armful, by way of demonstrating their greater appreciation of Nature's beauty.

After all, one does not have to pick one's favorite wild flowers in order to enjoy them. I know a fine bed of trailing arbutus, for example, almost within the New Haven city limits. No one else seems to have discovered it. Nearly every year I go out and rake off the dead leaves; but I would not think of picking the blossoms. There is a certain pride in its "possession," a sort of proprietary feeling which any one can enjoy who knows the location of some woodland rarity, even if, as in this case, the land it grows on happens to belong to somebody else. Again, many of the native wild flowers readily adapt themselves to cultivation in the garden; although it should also be emphasized that many do not, especially various of the rarer woodland varieties which speedily succumb except under very special treatment. In the Marsh Botanical Garden, at Yale, we have made a start in the cultivation of native American herbaceous perennials under ordinary garden conditions, the collection now, at the beginning of the third season, comprising upwards of 250 different kinds. Finally, there is the camera, with the aid of which one can gradually build up a year-round collection of all his favorite wild flowers; a collection which can be supplemented, if desired, by the purchase of various other "photo-flowers," obtainable in the market for a comparatively trifling sum.

To select fifty showy Connecticut wild flowers which do not need to be protected is not at all a difficult matter, since the number of kinds which may indisputably be included in this category is many times greater. Among the native golden-rods and asters, for example, there are nearly forty rather common species, all of which are more or less attractive and many decidedly showy. To select fifty kinds which are among those most suitable for decorative purposes, while at the same time among

those least in need of protection, is the ideal to be aimed at in the present competition. Chiefly by way of suggestion, two lists of Connecticut wild plants are herewith appended, the first of flowers which need to be protected, the second of flowers which do not. In the first list a star is placed against the names of those which should not be picked at all; in the second against those that should be protected in certain sections of the State. These lists are intended to apply to conditions prevailing in the State of Connecticut, taken as a whole, and in large measure to conditions prevailing in the country, since in the immediate vicinity of cities and towns, picnic places and resorts, it is only through the adoption of more or less drastic regulations that the extermination even of various common forms can be prevented. The disposition of the various species in these lists is based partly on the field observations of the writer and partly on the opinions offered by several other members of the Connecticut Botanical Society. The lists do not pretend to be complete. They do not necessarily include all of the showy wild plants of Connecticut; neither would all the plants listed necessarily be classed as showy. In particular it might be mentioned, in this connection, that some otherwise rather showy plants are worthless for decorative purposes because they wilt almost immediately after being picked. Among those which behave in this way to a more or less pronounced degree, in addition to the flowering dogwood, are the blue-eyed grass, blood-root, chicory, elderberries, evening primroses, gerardias, golden ragwort, jewel weed, meadow beauty, morning glory, and wild geranium. The plants are listed by their common names, as given in the Catalogue of the flowering plants and ferns of Connecticut, published by the State Geological and Natural History Survey, scientific names being given only in cases where the identity might otherwise be in question.

YALE UNIVERSITY,
NEW HAVEN, CONN.

CONNECTICUT WILD FLOWERS WHICH NEED TO BE PROTECTED
Especially those marked with a star

| | | |
|--------------------------|-----------------|---------------------|
| Arethusa* | Bluebell | Climbing fumitory |
| Azaleas | Buckbean | Columbine |
| Baneberries | Bunchberry | Cordalis |
| Bird-foot violet | Calopogon | Dragon root |
| Blazing star | Canada violet | Dutchman's breeches |
| (<i>Chamaelirium</i>)* | Cardinal flower | Early yellow violet |

| | | |
|--------------------|----------------------|-------------------|
| False miterwort | Meadow beauty | Sea pink* |
| Flowering dogwood | Miterwort | Shin leaf |
| Gentians* | Orchids (all kinds)* | Squirrel corn* |
| Ginseng* | Painted trillium* | Trailing arbutus* |
| Globe-flower* | Pipsissewas | Twin-flower* |
| Golden seal* | Pitcher plant* | Twisted stalk |
| Great blue lobelia | Pogonias | White trilliums |
| Holly* | Prickly pear | Wild calla |
| Indian pipe | Purple clematis* | Wild lilies |
| Lady's slippers* | Redbud* | Wild pink |
| Ladies' tresses | Rhododendron* | Wild senna |
| May apple | Rhodora | |

CONNECTICUT WILD FLOWERS WHICH DO NOT NEED TO BE PROTECTED

Except, in certain localities, those marked with a star

| | | |
|----------------------------------|-----------------------------|------------------------------|
| Agrimony | Chokeberries | Huckleberry |
| Anemone* | Climbing hempweed* | Ironweed |
| Angelica | Clovers | Jack-in-the-pulpit* |
| Arrow-head | Cone-flowers | Jewelweed |
| Asters (most kinds) | Cornels (the shrubby kinds) | Joe-pye weed |
| Barberry | Culver's physic* | Knotweeds |
| Beach pea* | Cypress spurge | Loosestrifes |
| Beard-tongues* | Daisy | Lousewort |
| Bedstraws | Dandelion | Lupine* |
| Bellworts* | Day lily | Marsh marigold |
| Bittersweet* | Devil's paint-brush | Meadow rue |
| Blackberries | Dogbanes | Meadow-sweet |
| Black cohosh* | Dog-tooth violet | Milkweeds (most kinds) |
| Black-eyed Susan | Elecampane | Mints |
| Blazing star (<i>Liatris</i>)* | Elderberries | Mountain laurel* |
| Bloodroot* | Evening primroses | Mulleins |
| Blueberries | Everlastings | Musk mallow |
| Blue curls | False Solomon's seal* | New Jersey tea |
| Blue-eyed grass | Figworts | Painted cup* |
| Blue flags* | Fireweed | Partridge berry* |
| Bluets | Fleabanes | Pokeweed |
| Boneset | Fringed polygala* | Purple-flowering rasp-berry* |
| Bouncing-bet | Goat's rue* | Purple gerardias |
| Bush honeysuckle | Golden Alexanders | Rattlesnake root |
| Butter and eggs | Golden club* | Robin's plantain |
| Buttercups | Golden ragwort | Rock cress |
| Butterfly-weed* | Golden-rods (most kinds) | Rose mallow* |
| Button bush | Grass of Parnassus* | Rue anemone |
| Canadian burnet* | Hawkweeds | St. John's worts |
| Caraway | Hawthorns | Sarsaparillas |
| Cat-tails | Heal-all | Saxifrages |
| Celandine | Hepatica* | Sea lavender* |

| | | |
|-------------------------------|----------------------------|-------------------------|
| Shad bushes | Toothworts* | Wild indigo |
| Sheep laurel | Turtlehead* | Wild lettuce |
| Skullcaps | Vervains | Wild lily of the valley |
| Sneezeweed | Vetches | Wild morning glory |
| Solomon's seal | Viburnums | Wild mustards |
| Spice bush | Violets (most kinds) | Wild parsnip |
| Spikenard* | Viper's bugloss | Wild plums* |
| Spring beauty* | Water hemlock | Wild radish |
| Star flower* | Water lilies | Wild roses |
| Star grass (<i>Hypoxis</i>) | Water parsnip | Wild sarsaparilla |
| Steeple bush | White clematis* | Wild sunflowers |
| Sweet Cicely | White-flowered bush | Winterberries* |
| Sweet clovers | clovers | Witch-hazel |
| Sweet pepperbush | White snakeroot | Yarrow |
| Tansy | Wild bean (<i>Apios</i>) | Yellow-flowered cinque- |
| Thistles | Wild carrot | foils |
| Thoroughwort | Wild cherries | Yellow gerardias* |
| Tick trefoils | Wild currants | Yellow rocket |
| Toadflaxes | Wild geranium | |

THE PERSISTENCE OF SOME OF OUR NATIVE PLANTS*

GEORGE REDLES

Conopholis Americana.—This colony was observed about 1825 by the late Wm. Wynne Wister along the Wissahickon and then my father located it, who showed it to me at least fifty years ago, so it has been under observation for at least 100 years. The same directions for finding it still hold good, notwithstanding a sewer and bridle path have been constructed in the immediate vicinity. It seems to be of about the same dimensions as originally noted, even to the same black oak host. Efforts to propagate it from seed have so far failed in other locations.

Aletris farinosa and *Chamaelirium luteum*.—These were found growing in what was originally a more or less damp situation, caused by a brook running on a level with the place, but now, owing to erosion, they are left high and dry close to the top of the hill, the brook twenty feet below and the road close to a hundred feet below, which naturally causes the situation to become very dry under ordinary conditions. The *Chamaelirium*, originally about twenty-five plants, has dwindled to a single

* A paper delivered at the meeting of the Phila. Botanic Club, October 22, 1925.